B.S. in Chemistry
Department of Chemistry & Biochemistry

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What is Chemistry?
Chemistry is the central science that encompasses the study of matter in all its forms. This branch of science describes the fundamental structures, composition, and characteristics of atoms and molecules, which leads to an understanding of chemical reactivity. This chemical insight provides a broad foundation to apply to both the physical and biological sciences, opening up a variety of academic and professional pursuits. Studying chemistry requires a multidisciplinary approach that incorporates other areas of study such as biology, computer science, mathematics and physics. The diverse interests of chemists are reflected in the sub-disciplines of the field such as analytical, biological, inorganic, organic, and physical chemistry.

Career Opportunities in Chemistry
Graduates with a B.S. degree in Chemistry can choose from a great variety of careers. The solid foundation in all physical sciences provides great flexibility both in type and location of employment. Many graduates move on to graduate school in chemistry or chemistry related fields as well as professional schools. Career options include:

• Chemical Engineering
• Education
• Environmental Protection
• Instrumentation
• Forensic Chemistry
• Petroleum
Requirements for all Chemistry Majors

1) Lower Division Chemistry Courses:
   - CHEM 1000 Foundations of Chemistry (3)
   - CHEM 1001 Foundations of Chemistry Laboratory (2)
   - CHEM 1100 Foundations of Analytical Chemistry (2)
   - CHEM 1600 Foundations of Physical Chemistry (2)
   - CHEM 2200 Foundations of Inorganic Chemistry (2)
   - CHEM 2300 Foundations of Organic Chemistry (2)
   - CHEM 2400 Foundations of Biochemistry (2)
   - CHEM 2900 Research Methods in Chemistry (2)

2) Upper Division Chemistry Courses:
   - CHEM 3100 Quantitative Analytical Chemistry (4)
   - CHEM 3300 Organic Chemistry I (3)
   - CHEM 3301 Organic Chemistry Laboratory I (2)
   - CHEM 3600 Physical Chemistry I (3)
   - CHEM 3610 Physical Chemistry II (3)
   - CHEM 3900 Seminar in Chemical Literature (2)
   - CHEM 4100 Chemical Separations (1)
   - CHEM 4101 Chemical Separations Laboratory (1)
   - CHEM 4200 Inorganic Chemistry (3)
   - CHEM 4900 Senior Seminar in Chemistry (2)

3) Physics Courses:
   - PHYS 2110 College Physics I (4)
   - PHYS 2120 College Physics II (4)

4) Mathematics Courses:
   - MATH 2010 Calculus for the Biological and Chemical Sciences I (4)
   - MATH 2020 Calculus for the Biological and Chemical Sciences II (4)

5) Mathematics Courses:
   - MATH 2310 Calculus I for Engineers (4)
   - MATH 2320 Calculus II for Engineers (4)

6) Mathematics Courses:
   - MATH 2510 Calculus I (4)
   - MATH 2520 Calculus II (4)

Additional Courses Required for the B.S. in Chemistry

5) Upper Division Chemistry Courses:
   - CHEM 3310 Organic Chemistry II (2)
   - CHEM 3311 Organic Chemistry Laboratory II (2)
   - CHEM 4110 Spectroscopy (1)

6) Four additional units of upper division coursework in Chemistry selected with prior approval of academic advisor.

Additional Courses Required for the B.S. in Chemistry Certified by the American Chemical Society

5) Upper Division Chemistry Courses:
   - CHEM 3310 Organic Chemistry II (2)
   - CHEM 3311 Organic Chemistry Laboratory II (2)
   - CHEM 3400 Biochemistry I (2)
   - CHEM 4110 Spectroscopy (1)
   - CHEM 4120 Nuclear Magnetic Resonance (1)
   - CHEM 4121 Spectroscopy Laboratory (1)
   - CHEM 4800 Honors Research (3)

6) Three additional units of upper division coursework in Chemistry selected with prior approval of academic advisor.

Additional Courses Required for the B.S. in Chemistry with a Concentration in Management & Marketing

5) Management and Marketing Courses:
   - MGMT 3000 Organizational Behavior (3)
   - MGMT 3100 Human Resources Management (3)
   - MKTG 3000 Marketing Principles (3)

6) Six additional units of upper division coursework in Management and Marketing selected from the following list:
   - MGMT 3090 Career and Managerial Skills (3)
   - MGMT 4300 Negotiation, ADR, and Conflict Management (3)
   - MGMT 3020 Introduction to Operations Management (3)
   - MKTG 4060 Marketing Channels and Logistics (3)
   - MKTG 3010 Consumer Behavior (3)
   - MKTG 3020 Advertising and Public Relations Strategy (3)

Additional Courses Required for the B.S. in Chemistry with a Concentration in Occupational Safety & Health Management

5) Environmental Resource Management Courses:
   - ERM 3010 Introduction to OSHA (3)
   - ERM 3020 Advanced OSHA (3)
   - ERM 3100 Hazardous Materials Management (3)
   - ERM 3200 Industrial Hygiene Fundamentals (3)

6) Public Policy and Administration Courses:
   - PPA 4620 Introduction to Emergency Management (3)

Important Note: A grade of “C” in chemistry, cognate, and all other major courses is the minimal grade acceptable for progression into subsequent chemistry courses and for graduation. Credit, no-credit courses are not acceptable for the major or minor.